Complete Summary

GUIDELINE TITLE

Guideline on the assessment of bleeding risk prior to surgery or invasive procedures.

BIBLIOGRAPHIC SOURCE(S)

Chee YL, Crawford JC, Watson HG, Greaves M. Guidelines on the assessment of bleeding risk prior to surgery or invasive procedures. London (UK): British Committee for Standards in Haematology; 2007. 25 p. [16 references]

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Any disease or condition requiring invasive procedures that may contribute to excessive bleeding, for example:

- Deficiencies in blood factors VIII, IX, and XI
- Cardiovascular disease (use of anticoagulation therapy)
- Disseminated intravascular coagulation
- Liver disease
- Vitamin K deficiency
- Platelet dysfunction
- Von Willebrand disease (vWD)
- Hemophilia

GUIDELINE CATEGORY

Evaluation
Risk Assessment
Technology Assessment

CLINICAL SPECIALTY

Anesthesiology
Hematology
Surgery

INTENDED USERS

Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To provide a rational approach to the use of bleeding history and coagulation tests prior to surgery or invasive procedures to predict bleeding risk

Note: The aim is to evaluate the use of indiscriminate testing. Appropriate testing of patients with relevant clinical features on history or examination is not the topic of this guideline.

TARGET POPULATION

Patients in the United Kingdom at risk for excessive bleeding from invasive procedures such as surgery

INTERVENTIONS AND PRACTICES CONSIDERED

Coagulation Testing Prior to Surgery or Invasive Procedures

1. Activated partial thromboplastin time (APTT)
2. Prothrombin time (PT)
3. Skin bleeding time (BT)

Patient History Prior to Surgery or Invasive Procedures

1. Family and patient bleeding history
2. Antithrombotic therapy

MAJOR OUTCOMES CONSIDERED

- Sensitivity and specificity of coagulation tests
- Positive and negative predictive value of coagulation testing and bleeding history

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

First, the commonly employed coagulation screening tests were identified and their general and specific limitations considered. Second, Medline was systematically searched for English language publications from 1966 to September 2005. Relevant references generated from initial papers and published guidelines/reviews were also examined. Meeting abstracts were not included. *Key terms*: routine, screening, preoperative, surgery, coagulation testing, APTT, PT, bleeding, invasive procedures.

Studies had to contain enough data to allow the calculation of (a) the predictive value (PV) and likelihood ratio (LR) of the coagulation test for postoperative bleeding and/or (b) the PV and LR of the bleeding history for postoperative bleeding.

NUMBER OF SOURCE DOCUMENTS

Nine observational case series with usable data and one systematic review were identified.

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Classification of Evidence Levels

Ia Evidence obtained from meta-analysis of randomised controlled trials.

Ib Evidence obtained from at least one randomised controlled trial.

IIa Evidence obtained from at least one well-designed controlled study without randomisation.

IIb Evidence obtained from at least one other type of well-designed quasi-experimental study (a situation in which implementation of an intervention is without the control of the investigators, but an opportunity exists to evaluate its effect).

III Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies.

IV Evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities.

METHODS USED TO ANALYZE THE EVIDENCE

Meta-Analysis
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Data elements extracted from the articles were study type, surgical setting, number and age of patients and coagulation tests performed. *Outcome data* extracted included abnormal tests, positive bleeding history, postoperative bleeding and change in management as a result of coagulation screening. *Critical appraisal*: customary grading criteria were used (Appendix 2 of the original guideline document). *Statistical analysis*: standard methods were used to calculate the predictive value (PV) and likelihood ratios (LR). 95% confidence intervals (C.I.) for proportions were calculated by the efficient-score method, corrected for continuity (Appendix 1 of the original guideline document).

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The writing group was made up of UK haematologists with a special interest in bleeding disorders and an anaesthetist.

A draft guideline was produced by the writing group, revised and agreed by consensus. Further comment was made by the members of the Haemostasis and Thrombosis Task Force of the British Committee for Standards in Haematology (BCSH).

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Classification of Grades of Recommendations

Grade A - Requires at least one randomised controlled trial as part of a body of literature of overall good quality and consistency addressing specific recommendation. *(Evidence levels Ia, Ib)*.

Grade B - Requires the availability of well conducted clinical studies but no randomised clinical trials on the topic of recommendation. *(Evidence levels IIa, IIb, III)*.

Grade C - Requires evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities. Indicates an absence of directly applicable clinical studies of good quality. *(Evidence level IV)*.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The guideline was reviewed by a sounding board of approximately 40 United Kingdom (UK) haematologists, the British Committee for Standards in Haematology (BCSH) and the Committee of the British Society for Haematology and comments were incorporated where appropriate.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Recommendation grades (**A-C**) and levels of evidence (**Ia-IV**) are defined at the end of the "Major Recommendations" field.

- Indiscriminate coagulation screening prior to surgery or other invasive procedures to predict postoperative bleeding in unselected patients is not recommended. **(Grade B, Level III)**.
- A bleeding history including detail of family history, previous excessive post-traumatic or post-surgical bleeding and use of anti-thrombotic drugs should be taken in all patients preoperatively and prior to invasive procedures. **(Grade C, Level IV)**.
- If the bleeding history is negative, no further coagulation testing is indicated. **(Grade C, Level IV)**.
- If the bleeding history is positive or there is a clear clinical indication (e.g., liver disease), a comprehensive assessment, guided by the clinical features is required. **(Grade C, Level IV)**.

Definitions:

Classification of Evidence Levels

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CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate assessment of bleeding risk prior to surgery or invasive procedures

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

While the advice and information in these guidelines is believed to be true and accurate at the time of going to press, neither the authors, the British Society for Haematology nor the publishers accept any legal responsibility for the content of these guidelines.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Safety

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2007

GUIDELINE DEVELOPER(S)

British Committee for Standards in Haematology - Professional Association

SOURCE(S) OF FUNDING

British Committee for Standards in Haematology

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available from the British Committee for Standards in Haematology Web site.

Print copies: Available from the British Committee for Standards in Haematology; Email: bcsh@b-s-h.org.uk.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

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